Environmental Economics

ISSUE SUMMARY:

Benefit-cost analysis (BCA) and other economic analyses have been an integral part of executive branch rulemaking for decades. EPA's expertise in environmental economics supports such economic analysis in its regulatory and other programs. EPA routinely values the social costs of its regulations as well as the environmental and public health benefits, including reductions in premature deaths and reduced impacts of climate change. However, other important benefit categories, such as those related to reduced toxic chemicals (e.g., to support TSCA 21 implementation) or improvements in water quality have remained largely unquantified in EPA's analyses, and would require further research to support their inclusion. In addition to analyzing benefits, EPA frequently includes qualitative discussions of potential employment and environmental justice impacts in its regulatory analyses. Current economic and social conditions suggest that improvements in the consistency and quality of employment and environmental justice analyses might be informative to EPA policy makers.

BACKGROUND:

Presidents since the 1970s have issued executive orders requiring agencies to conduct analysis of the economic consequences of regulations as part of the rulemaking development process. The most recent iteration of these requirements, Executive Order 12866, was issued in 1993 and remains in effect today. In December 2020, EPA is expected to codify into regulation the requirement to conduct high quality BCAs of significant regulations promulgated under the Clean Air Act; analogous procedural rules are in development governing rulemaking under other environmental statutes. These BCAs and other economic analyses provide key information for decision makers and serve as a report to the public on the expected environmental and health benefits that will result from investing in environmental protection.

Recent Accomplishments: In 2020, EPA issued the first major update of the economic guidelines (***EPA's Guidelines for Preparing Economic Analyses***) since 2010. This update ensures that the guidelines, which the agency uses to ensure our economic analyses of regulatory actions are accurate and grounded in well-established economic science, are current with the best available research in environmental economics. The *Guidelines* provide agency analysts with detailed SAB-reviewed guidance on best practices regarding the analysis and presentation of benefits, costs and distributional impacts of regulatory and non-regulatory EPA actions. The intention of the *Guidelines* is to improve compliance with E.O. 12866 and with other executive orders and statutory requirements, such as the Small Business Regulatory Enforcement Fairness Act of 1996. EPA's recent update includes new, expanded, or updated discussions on topics that include behavioral economics and policy "nudges," economy-wide modeling of regulatory impacts, and analyzing how the benefits and burdens of regulation are distributed across society. Agencywide training on the content of the revised Guidelines is currently being planned.

Also, in 2020, EPA released a new economy-wide model of the United States named **SAGE**, which is a recursive acronym for Applied General Equilibrium Model. SAGE provides the agency with a powerful new analytic tool for understanding of the economic impacts of the agency's environmental policies and regulations. The model was built in response to advice the agency received in a 2017 final report from a prior Science Advisory Board panel

on the role of economy-wide models to inform regulatory analysis. The SAB's recent review of the SAGE model commended the agency on its development of a well-designed open source model for use in regulatory analysis.

KEY EXTERNAL STAKEHOLDERS:

☒ Congress ☒ Industry ☒States ☐ Tribes ☐ Media ☒ Other Federal Agency
☒ NG0 ☐ Local Governments ☒ Other (name of stakeholder) Academia

- Congress, industry, states, and NGOs are frequently interested in EPA's economics work.
- Other federal agencies are engaged in the social cost of greenhouse gases work.
- DOT, FDA, and CPSC, as well as industry, states, and media will be interested in EPA's mortality risk valuation work.

MOVING FORWARD:

EPA currently uses BCA routinely to quantify the benefits from reductions in criteria air pollutants and greenhouse gases; however, future regulatory activity (e.g., EPA's implementation of the bipartisan reform of TSCA) will require further research in the near-term to be able to quantify the benefits from reductions in toxic chemicals and more fully inform the implementation process.

EPA's economic impacts analyses frequently include qualitative descriptions of the employment and environmental justice implications of regulatory proposals. Establishing tractable quantitative methods to analyze these two highly relevant economic impacts are additional challenges that would benefit from further investments.

Moving forward, EPA will need guidance and decisions on the following:

- to determine how aggressively to pursue investments in better benefits quantification, as well as in enhanced employment impact and environmental justice analyses;
- on whether more comprehensive benefits assessments are a priority in the rule making process and the extent to which investments should be made in benefits assessment of toxic chemicals.

LEAD OFFICE/REGION: OP OTHER KEY OFFICES/REGIONS: OAR, OW, OCSPP, OLEM, ORD